Digital Satellite Receiver
User manual

-English

Content

Table of Content	Page 19
Technical Description	Page 21
Installation	Page 22
Connecting the unit	Page 22
Remote Control Unit	Page 23
Basic configuration	Page 24
EPG - Electronic Program Guide	Page 25
Timer	Page 26
Selectiing Audio/Radio channels	Page 26
Radio Programs	Page 26
Game	Page 27
Basic Configuration	Page 27
Edit Channel List	Page 28
Scan	Page 29
Channel Selection Window	Page 30
Signal-Strength Meter	Page 31
DiSEqC-Motor (DiSEqC 1.2 Steering)	Page 31
Using the RS 232 connector	Page 32
Problems with EPG	Page 32
Scrambling	Page 32
Technical Specifications	Page 33

Warning!

- To avoid fire or electric shock the unit must not be exposed to rain or moisture.
- To avoid electric shock the housing should only be opened by a specialist.
- Do not place the unit in a closed environment with insufficient ventilation.

Special Care

- Should an object such as a needle or some liquid enter the housing, disconnect the unit from the power supply and have it checked by a specialist before further use.

- Place the unit in an environment with sufficient air circulation and not to near some heating. This will prevent heat accumulation and assure a longer lifetime.

- Do not put anything on top of the unit. If the ventilation holes are blocked malfunction might result.

- Before connecting other units switch off the receiver.

- The power cable must not be damaged. Should any damage occur the unit must not be powered up.

The satellite receiving installation must be properly grounded. Please observe the existing safety regulations.

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The unit has the CE mark which means that it is in conformity with European regulation 89/336 EWG for electromagnetic safety.

Technical Description

Software:

- 2500-TV + 1000-Radio channels
- 50 Satellites (can be individually selected and activated)
- 20 digit Channel name
- Fast-OSD
- Fast channel zapping
- fast menu access
- big text for good readability (aspect value 0,58)
- extensive online help
- OSD-Transparency and OSD-duration are adjustable

EPG:

- Electronic Programme Guide
- 64 day forecasting, if supported by the transmitter
- detailed description of program content
- Indication of program type and style
- correct display of foreign language EPGs
- 1 MB EPG-Cache

Channel list editor:

- Copy, Move, Erase etc.
- Grouped configuration
- special functions for channel blocking within groups

Channel scan:

- fully automatic channel scan
- Detection of clear programmes
- Professional scan

Additional functions:

- Teletext reinsertion (for reproduction on TV)
- Signal strength meter
- Game
- Support of all audio channels for multi language programs or additional radio-channels.

Radio channels

- Switch back to previous channel by pressing Switch key
- Plug & Play thanks to pre-programmed channel list
- Switch on time : < 3 Sec, from Standby < 0,5 Sec

Installation

Check that all of the following components have been delivered:

- Receiver

- Remote Control

- User-Manual

- Alkali batteries (LR03, Size AAA)

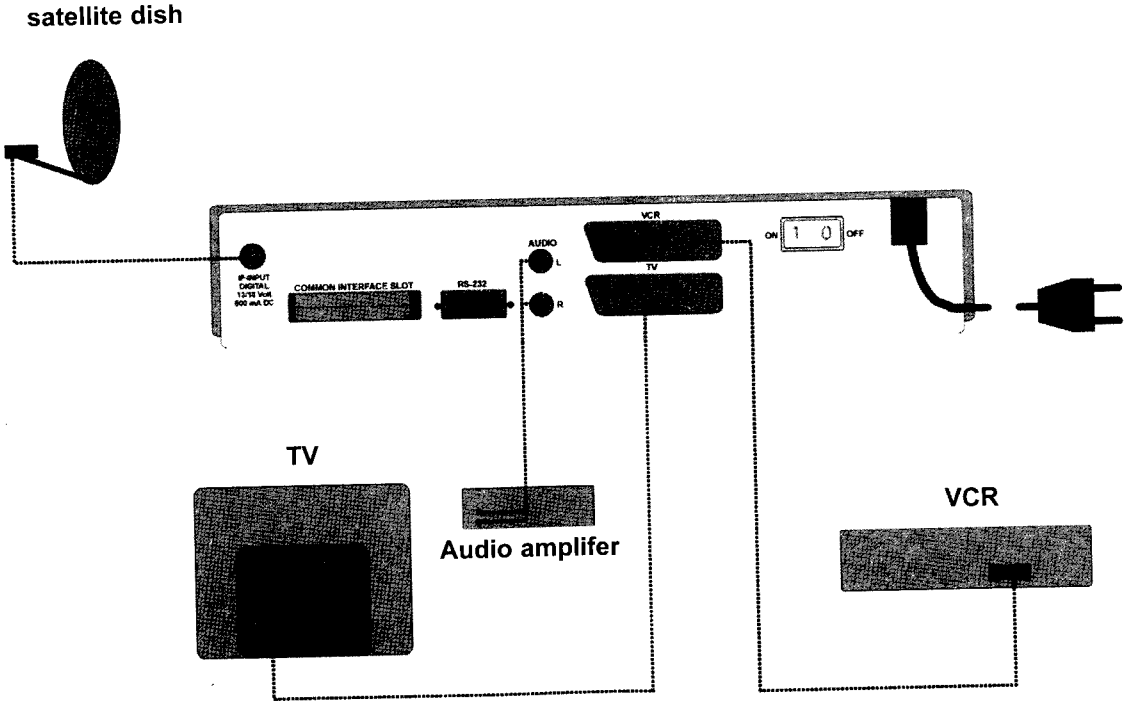
Disposal of packing

The packing components can be recycled and should be disposed of with this consideration in mind.

Packing materials like plastic foil should not be left in the hands of children.

Connecting the unit

The following connections need to be established by making use of identifications of the relevant connectors on the back of the receiver:



Remote Control Unit

Easy, quick and effortless use of the IRD is possible using the Remote Control Unit and the on-screen display.

⏻	switch between "on" and "standby"
🔇	used to enable or disable audio (mute)
TV	selects TV mode
PAUSE	stop the picture
RADIO	selects radio mode
AV	selects AV-video input
TEXT	displays teletext service
SWAP	selects the previously viewed channel
LIST	shows program list in the on-screen display
EXIT	go to the previous menu or to exit the menu sytem when in the main menu
INFO	displays the EPG-Informations
MENU	displays the main menu on the screen
OK	selects program while in the electronic program guide and selects pointed options or values in menus
VOL ◀ /VOL ▶	Audio volume up/down moves the curser (left/right) in the menu mode
CH ▲/CH ▼	step up/down the channels moves the courser (up/down) in the menu mode
0-9 key	channel select also used to key in channel information

Basic Configuration

After switching on you have to configure the User Software by the following steps.

1. Press Menu button. Select Installation and press OK.

2. Select Basic Settings and press OK .

3. Adjust time in accordance with your location. For Central Europe use +1:00 (related to Universal Time) in winter and +2:00 (related to Universal Time) in summer. These settings need to be readjusted when summer/winter time changes occur. You can effect these changes by left and right arrow buttons or direct input via number keys. You can change +/- sign by LIST button.

4. Leave Basic Settings by pressing EXIT button.

5. Select Satellites and follow On Screen prompts.

6. If you have marked only one satellite for reception proceed directly to point 9 below. If you have marked more than one satellite for reception, you need to activate the integrated DiSEqC-Control. Press EXIT button to leave the "Satellites" menu, select DiSEqC" and press OK.

7. Select Equipment Control DiSEqC

8. Proceed to the next lines and set-up the satellites allocated to each input by left and right arrow buttons. If you should only receive ASTRA 1 at 19.2° East and Hotbird at 13° East, which is the standard configuration for most users, you would allocate ASTRA 1 to Satellite A Hotbird to Satellite B.

   Please note!
   You can only address satellites which you have previously activated under above point 5. Use left/right arrow buttons to navigate through the list or OK button to put whole list on screen for direct selection. Press EXIT key to return to Main Menu.

9. Select Signal Output. Select desired Video formats for TV and VCR.

10. If you want to adjust the Volume only through the satellite receiver you may now proceed to point 11below. Before proceeding with the following adjustments set volume control on your TV and Amplifier to a minimum. To adjust volume via a connected TV or amplifier select Volume-Bypass. Then select the outputs on the satellite receiver which will be used for direct full volume level output to the connected equipment.

11. Return to Main Menu by pressing EXIT and select "**Save Settings**" under Installation Menu. To save all adjustments made so far press OK and wait until the Menu disappears.

EPG - Electronic Program Guide

Channels which are conform with DVB standards offer information on their programs such as titles and description of contents of running and forthcoming events. Additionally a program forecast up to 64 days may be provided by some channels.

STATUS
When switching to another channel the STATUS information will provide title and time frame for the current program being received. Further information can be accessed via the EPG for which the INFO key must be pressed.

The EPG provides the following functions:

Detailed Information
To enter the EPG press INFO key in any program you are watching. This will provide all information made available on the program by the provider.

Current day programs:
Press INFO again and you will receive a listing of all programs for the current day from 6 am of the current day to 6am of the following day.

Use Up/Down keys for scrolling. Use Left/Right keys for fast scrolling.

At the top of the screen you will find the date referring to the program details on the screen.
On the right you will find the number of dates for which information is provided.

Please note:
When entering a program it may need a few seconds to compile all available data for processing.
Attention: Not all program providers is put out an EPG (e.g. TM3, NTV, DSF etc.)

Timer

The built-in timer can address up to 12 events and will allow you to select Channel Name, Date, Start time and Stop time. Follow the on screen prompts.

Pressing OK will allow you to edit the channels to be addressed.

Pressing LIST will toggle between a fixed date or a weekday selection which can be further selected by left/right keys and OK key.

If Stop time is selected as an earlier time than Start time (which may be the case when events cover two days) recording will continue until the next day.

When working with the timer the following points must be observed:

1. The Timer will be activated by selecting YES after Activated and switching the unit into Standby mode by pressing the POWER key.

2. To deactivate a running timer press POWER key for a few seconds. You will then receive a dialog which will let you decide and select if timer should be deactivated permanently or only temporarily. In the latter case timer will again be activated when POWER key is pressed.

3. To insure that Timer functions properly the internal clock must be set correctly. This can be checked in the STATUS panel.

Selecting Audio/Radio channels

To select an alternative audio channel in a multi language programme press AUDIO to enter the Audio channel menu.

Select the desired language and press OK. To safeguard the currently selected Audio channel as default for this channel, press OK for several seconds.

If Audio channels can identify the language being used, this also will be shown.

Radio Programs

Several freely receivable radio channels on ASTRA 1 are available as separate Audio channels. These can also be selected as described above. In this case the names of the radio channels are also being shown in the Audio channel list.

Game

You can access the game integrated in this receiver by selecting "Game" in the Main Menu. The aim of the game is to sort the falling blocks in such a way that they fill the space below without leaving any gaps. Whenever one line has been filled up fully, it disappears and the line above moves down. For every stone you sort and for every line which disappears you receive points. The game is finished when you have used up all the space to sort your blocks.

To navigate the blocks use the following keys:

OK	turns the block anti clockwise
◀	moves the blocks to the left
▶	moves the blocks to the right
▼	increases falling speed of blocks

Basic Configurations

The basic configurations of the receiver are made via the sub menu “Installations”, which is part of the Main Menu.

Navigate in the list by up/down and left/right arrow keys and use OK for further display options and confirmations of settings. Use numeric keys for direct inputs of numbers. Follow the prompts on each menu.

If configurations are changed since last saving the settings they are marked green. When first starting up the receiver all parameters will, therefore, be marked green.

After all desired alterations have been effected they need to be stored. Go to the Main Menu and select **“Save Settings”** and press OK. Wait until the Menu disappears to indicate that saving has been completed. This might sometimes take several minutes.

Always follow the on screen prompts in each sub menu which describe the various options at your disposition.

Edit Channel List

You can change the Channel List of the receiver in accordance with your preferences. It is recommended to group the channels within their respective satellites, as is the case in the pre-programmed channel list.

Go to "Sort Channels" in the Installation menu.

After having made the required alterations press EXIT and confirm the request for storage with OK to store the altered Channel List.

To make changes to individual channels (e.g. Move, Delete, Cut, Insert Empty) select the channel and press OK.

In case you want to make alterations to a complete group of subsequent channels at the same time, select the Block entry in sub menu. After confirming this choice with OK the menu disappears and you are prompted to select the last entry of the block with OK. Select the last channel of group of subsequent channels, as desired, and press OK. Then follow the prompt appearing underneath the menu selected, press OK and select the desired option.

The following options appear in the menu:

Copy	copies the channel to another location in the list. The target channel will be overwritten.
Move	moves the channel to another location
Delete	deletes the channel from the Channel List. The Channel number appears as "<unused>". The number of the channel and other channels remains unchanged.
Cut	also deletes the channel from the channel list but the subsequent channels are moved up one number. In this respect referring to "Cut" function please note: To support the Channel Blocking function, all channels are now moved up to the next "<unused>" channel number. If, for example, the Channel list shows "<unused>" entries for all channels between 85 and 99 and you cut, for example, channel 57, only channels 57 to 84 will move up one number. Channels beyond channel number 100 are not affected.
Insert empty	inserts an "<unused>" channel number. All subsequent channels are moved back.
Pack	This option is available after you have marked a block of channels. Within this block all gaps marked "<unused>" will be deleted and all subsequent channels will be moved up. The empty entries will then appear in a group at the end of the block.

Functions requiring a target channel will prompt you after selection of the relevant menu option to select the target channel. Go to the desired target channel and confirm with OK. As long as a function of this kind is in progress you cannot cancel previous steps by pressing EXIT.

Scan

Automatic scan will search a selected satellite for new programmes. Scrambled channels will be sorted out automatically.
Programmes which already are part of the Channel List will be updated automatically if they have been modified.

To do a SCAN do the following:

1. Press Menu, then go to "Installation" and select "Satellite Channel Search" from its submenu.

2. Press OK to enter the menu listing all activated satellites. Select satellite to be scanned and press OK.

3. Wait until scan is finished. The displayed information refers to technical data of the satellite being scanned. The field "Totals" indicates the received TV and Radio channels.

4. When Scan is finished the Channel selection window appears.

Channel selection window

This window displays the channel list on the left and the newly found channels on the right. To toggle between newly found TV and Radio channels press TV or Radio keys. Use SWAP key to toggle between the left and right lists. There are several functions at your disposition. To activate those first select the channel in the list you want to reconfigure, press OK and then select one of the displayed options.

For selections affecting the Channel List, the left window will be addressed and you will be prompted to confirm selection with OK.

For newly found channels (right list) the following options are available:

Activate will bring selected channel on screen.

Copy above copies the selected new channel into the Channel List above the channel selected and marked by the cursor at the time. This channel and the subse quent channels are then moved down.

Copy over copies the selected new channel over the channel in the Channel List selected and marked by the cursor at the time. The old channel is overwritten and disappears.

For Channel list on the left the following options are available.

Activate will bring selected channel on screen

Restore prevents channels which have been found again during scan (due to some channel data having changed on them since last scan) to be updated to their new status.

Cut deletes the channel from the Channel list and subsequent channels are moved up one number.

Delete deletes the channel from the Channel List. The Channel number appears as <unused>. The number of the channel and other channels remains unchanged.

After having inserted new channels into the Channel List in accordance with your preferences press OK. You will be prompted to confirm this insertion with OK. Then you will be prompted to decide if you want to Save (OK), don't save (SWAP) or continue editing (EXIT) the selected channel.

Signal-Strength meter

You can select this function by the pressing Menu key and then go to “Installation” and select “Satellite Channel Search” from its submenu and press OK.

The displayed bar on the left indicates signal strength. The number next to C/N refers to the dB value.

The three coloured blocks right of the bar inform about the status of the different levels of reception. Only when these three fields are green, valid data is obtained from the signal.

Please note: Signal strength depends not only on the performance of your satellite installation but also on the signal quality of an active channel. This should be borne in mind when your antenna is adjusted by means of the indicated signal strength.

DiSEqC-Motor (DiSEqC 1.2 Steering)

This function allows to rotate the dish with the help of a so-called DiSEqC-Mount (DiSEqC-Motor). This makes it possible to receive more than one satllite with one dish. DiSEqC-Motors can store up to 32 satellite positions, these are numbered 1 to 32. Each satellite has to be associated with a storage position. This is accomplished by pointing the dish to the relevant satellite with the help of the Motor-Steering menu and storing this position in the wanted storage space.

After this position has been stored, this position will automatically be found when choosing this storage position.

Preparing for the DiSEqC-Steering
Firstly, in the menu "Satellites" (Installation > Satellites) those satellites you wish to receive must be activated. This will be done by pressing the "OK" key. There will be a "+" sign before the satellite name, when correctly activated.

Next, in the DiSEqC- Menu (Installation > DiSEqC) the function "DiSEqC easymotor" and in the menu "Satellite A:" the function "<DiSEq-Motor>". Save the settings (Installation > Save settings).

Back in DiSEqC-Menu, go to the menu "Program motor positions" by pressing the key ▼ four times. In the following menu you will find the satellites activated earlier. Now choose the required satellite and confirm with "OK". In the following menu the storage number must be associated with a satellite (Astra = 001, Hotbird = 002, Eutelsat = 027,...).

Now choose "Execute motor position" by pressing the key 6. Now you can perform and store the functions described below (save by pressing "2").

Key	Function
-	Key ◀ rotates the dish to the EAST
+	Key ▶ rotates the dish to the WEST
OK	Stops the dish immediately
1	Rotates the dish to the stored satellite
2	Stores the actual satellite position
3	Stores the Eastern limit of the dish position
4	Stores the Western limit of the dish position
5	Deactivates the stored dish position limits

The limits of the dish position are necessary in order to avoid any interference of the dish with other nearby structures. If the dish can move freely in all positions, there is no need to set the limits.

Using the RS232 connector

The RS232 connector allows connecting the receiver to a PC. On our Website you will find useful features such as updates to the Operating Software for downloading.

To connect the receiver to a PC you need a serial cable with 1:1 pin allocation. This means all pins are connected directly and not crossed over.

The Receiver side requires a standard male 9-pin D-SUB connector. The PC side, according to the type of your PC, may require either a 9-pin or 25-pin D-SUB connector.

The pins on the receiver side are connected as follows:

Pin 1, 4, 6 - 9 not connected

Pin 2 TXD

Pin 3 RXD

Pin 5 GND

Problems with EPG

Digital TV is a relatively young technology. Program providers need to invest heavily into state-of-the-art equipment and not all of them are on the latest level of technology.

Please understand that with some channels the received the EPG data is not very extensive and it may also contain errors.

Some of these shortcomings originating solely with program providers can be compensated only to a certain extent by software and hardware present in the receiver.

Wrongly displayed EPG information is usually an indication that the program providers in question do not observe all criteria of existing DVB standards.

Scrambling

The CI model of the receiver is equipped on its back with two slots allowing for the insertion of two Conditional Access Modules (CAMs) needed for decoding of scrambled signals by means of smart cards introduced into the modules.

When a scrambled programme is selected, the receiver detects if CAM and smart cards are present in at least one of the two slots. If they are, the programme will be decoded.

In the Installation menu the sub menu Encryption informs about the status of Conditional Access Module and Smart card.

11. Technical Specification

Tuner & Channel

Input Connector :	F-type, IEC 169-24, Female
Frequency Range :	950 MHz to 2150 MHz
Input Impedance :	75....unbalanced
Signal Level :	-25 to -65dBm
IF Frequency :	480 MHz
IF Band width :	36 MHz
LNB Power & Polarisation:	Vertical : +13.5V/Horizontal : +18V
Current :	400mA Max Overload Protection
22 KHz Tone :	Frequency : 22 ± 4KHz
Amplitude :	0.6 ± 0.2V
DiSEqC Control :	Version 1.0/1.2 Compatible
Demodulation :	QPSK
Input Symbol Rate :	4 - 45 Ms/s
FEC Decoder :	Convolutional Code Rate 1/2, 2/3, 3/4, 5/6 and 7/8

MPEG Transport Stream A/V Decoding

Transport Stream :	MPEG-2 ISO/IEC 13818 Transport stream Specification
Profile Level :	MPEG-2 MP@ML
Input Rate :	60 Mbit/s Max
Video Resolution :	720 x 576
Audio Decoding :	MPEG/MusiCam Layer I & II
Audio Mode :	Single channel / Dual channel Joint stereo / Stereo
Sampling :	32, 44.1 and 48KHz

Memory

Main Processor :	32 bit RISC CPU mit 54 MHz und 32 MBit SDRAM
Flash Memory :	8 Mbyte (Asynchronous)
Program DRAM :	4 Mbyte

A/V & Data In/Out

TV SCART :	Video Output(CVBS, RGB, S-VHS) Audio Output
VCR SCART :	Video Output (CVBS): Video Input(CVBS, RGB, S-VHS)
Audio Output	
AUDIO R/L :	Cinch volume and Mute Control
RS232C :	Transfer rate 9 pin D-sub Type

Power supply

Power Consumption :	90 to 250V AC, 50/60 Hz
Type :	SMPS
Power Consumption :	Max. 10W without LNB
Standby Power:	Verbrauch : 5W

Physical Spezifikation

Size (B x H x T) :	340 x 60 x 230 mm
Weight (Netto) :	ca. 2.6 Kg
Operating temperature :	0°C to +45°C
Storage temperature :	-10°C to +70°C
Storage humidity range :	5% ~ 95% RH (Non-Condensing)